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THE OHIO LIVESTOCK SLAUGHTER INDUSTRY —A SURVEY

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THE OHIO LIVESTOCK SLAUGHTER INDUSTRY — A SURVEY

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SUMMARY

The publication reviews some of the more significant physical characteristics of the Ohio meatpacking industry. It deals with procurement patterns and methods, product distribution and sales outlets, plant size and capacity, labor productivity, and other descriptive features of the 31 largest meatpacking plants in Ohio, excluding national packers.

The Ohio industry is characterized by a large number of small, independent plants, but the 31 plants included in this survey represent about two-thirds of the commericial slaughter conducted annually in the state. Most of these are privately owned and have been under the same ownership for several decades. Few are multi-plant firms. About two-thirds are processors as well as slaughterers and sell a variety of prepared products. Similarly, over two-thirds kill only one or two species. Most are cattle slaughterers, but six kill hogs only and four are cattle-hog combinations.

Although these plants averaged over 25 million pounds liveweight of cattle and over 30 million pounds of hogs slaughtered in both 1960 and 1961, few were operating at capacity or even at levels described as optimum by company representatives. Where capacity limits had been reached, these limits existed usually in the coolers rather than on the killing floors.

Labor productivity on killing floors averaged approximately one head of cattle or four hogs per man hour. Processing plants typically purchased supplementary meat for their kitchens beyond the supplies provided by their own killing floors.

Livestock were purchased frequently in Indiana, Kentucky, Illinois, Iowa and other western cornbelt locations, as well as in Ohio. Most product sales were made in Ohio, but Kentucky, West Virginia, Pennsylvania, and New York were among important out-of-state markets. About half of all sales were made to independent retail groceries, and more than a third were made to chains and affiliated chains.

The remainder went to wholesale buyers. Plans for the future included increased emphasis on various forms of direct buying and more sales to chains and affiliated groups, although strong preferences for independent store accounts often were expressed.

PURPOSE OF THE STUDY

The survey was part of a three-year study of the Ohio livestock marketing system with special reference to the state's meatpacking industry. This activity is competitive not only within the state, but on an interstate and interregional basis as well.

This publication is designed to provide industry representatives and extension agents with information helpful in maintaining and strengthening the interregionally competitive position of this industry, not only for the benefit of the meatpacking industry itself, but also for the agricultural and general economies of Ohio which thrive in the environment provided by an effective marketing system.

Related studies to appear under this project are in various stages of completion. A survey of the wholesale meat marketing structure will begin in the fall of 1964. Two analytical studies of trade patterns quantifying trade relationships between the Ohio meatpacking industry and its counterparts in neighboring states have been completed and one is published.[1] Further descriptive details of the industry beyond those presented in this publication also have been tabulated.[2]

INTRODUCTION

The number of livestock slaughtered commercially[3] in the United States in recent years has totaled 25 to 27 million cattle, 75 to 83 million hogs, 16 to 17 million sheep and lambs, and has ranged between 7 and 13 million calves. These totals are shown in Table 1.

The share of commercial slaughter conducted in Ohio has remained constant for cattle at about 4.5 percent and for hogs at about 5.5 percent. But sheep and lamb slaughter in the state has declined from approximately 1.5 percent to less than 1.0 percent of U. S. commercial slaughter. Calf slaughter has displayed a similar pattern, declining from over 2.5 percent to less than 2.0 percent (Table 1).

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[1]Stout, T. T., E. R. Bentley, and F. E. Walker, "Econometric Generalizations of the Ohio Hog-Pork Industry in Interregional Competition," Research Bulletin 950, Ohio Agricultural Experiment Station, October, 1963. Also, Futrell, G. A., F. E. Walker, and T. T. Stout, "Interregional Competition in Beef and Pork," Ohio Agricultural Experiment Station, in process.

[2]Dickey, Ronald W., "Economic Analysis of the Ohio Slaughter Industry," Thesis, Ohio State University Library, 1963.

[3]According to USDA estimating methods, commercial slaughter essentially includes all slaughter conducted for profit. It excludes only farm slaughter.

Ohio's slaughter industry is characterized by a large number of firms. According to a 1960 survey by the Ohio Department of Agriculture, there were 660 slaughtering firms of various capacities in the state that year. Most of these were quite small, with the result that 238 of them accounted for essentially all facilities that slaughtered more than 300,00 pounds liveweight annually. Still, these 238 plants by no means characterize that segment of the industry which regularly accounts for the great majority of Ohio commercial slaughter every year.

This bulletin presents a summary of the information obtained from a 1962 - 1963 survey of the 31 largest meatpacking firms in Ohio, excluding national packers. These firms typically account for about 60 percent of the commercial cattle slaughter and 65 to 85 percent of the hog slaughter conducted annually in Ohio (Table 2). This survey describes the Ohio commercial slaughter industry as characterized

TABLE 1.—Commercial Slaughter of Livestock in Ohio and the United States, Selected Years, 1955 - 1963.

Species	U. S. Commercial Slaughter	Ohio Commercial Slaughter	Ohio as Percent of U. S.
	(thousand head)	(thousand head)	
Cattle:			
1955	25,722.5	1,173.0	4.56
1960	25,224.3	1,186.0	4.70
1961	25,634.6	1,152.5	4.50
1962	26,083.3	1,164.5	4.46
1963	27,231.7	1,189.0	4.37
Hogs:			
1955	74,216.1	4,274.0	5.76
1960	79,036.3	4,558.0	5.77
1961	77,334.7	3,994.0	5.16
1962	79,334.3	4.163.0	5.25
1963	83,323.5	4,535.0	5.44
Sheep and Lambs:			
1955	16,215.1	259.0	1.60
1960	15,899.3	180.6	1.14
1961	17,190.0	182.6	1.06
1962	16,836.8	171.2	1.02
1963	15,821.9	139.1	0.88
Calves:			
1955	12,377.0	319.0	2.58
1960	8,224.9	153.2	1.86
1961	7,701.2	145.8	1.89
1962	7,494.3	135.8	1.81
1963	6,832.9	134.8	1.97

Source: Derived from Livestock and Meat Statistics, 1962; AMS, SRS, ERS, U. S. Dept. of Agr., Statistical Bulletin 333, July, 1963, and Livestock Slaughter, Mt-An-1-2-1, Crop Reporting Bd., U. S. Dept. of Agr., selected issues.

TABLE 2.—Commercial Slaughter of 31 Cooperating Firms as a Percent of Ohio Commercial Slaughter, 1960 - 1961.[1]

Species	Number of head Slaughtered	No. of Sample Plants	Sample Volume as a Percent of Ohio Commercial Slaughter	Average Liveweight Volume per Sampled Plants[2]
Cattle:				
1960	644,307	25	54.3	25,772,280
1961	683,927	25	59.3	27,357,080
Hogs:				
1960	3,049,000	20	66.9	31,252,250
1961	3,354,000	20	84.0	34,378,500
Sheep and Lambs:				
1960	12,395	10	6.9	111,555
1961	12,008	10	6.6	108,072
Calves:				
1960	26,748	16	17.5	37,614
1961	25,204	16	17.3	35,443

[1]Excluding national packers.

[2]Averages based on number of plants slaughtering and not on total sample. Weights figured at 1000 pounds for cattle, 205 pounds for hogs, 225 pounds for calves, and 90 pounds for sheep and lambs. Table 1 and survey data.

by these largest firms. Procurement sources and methods, operating capacities, product outputs, market outlets, merchandising methods, plans for the future, and other relevant topics are presented here as they were obtained from interviews with officers and management of the cooperating firms. In many cases, the firms have been classified in various categories to provide added insights. For example, many of the tables present these firms in large, medium, and small size categories.[4] Sometimes, they are divided between Eastern and Western Ohio locations, and frequently they are divided according to slaughter species. In all cases, the intent has been to provide added bases for more meaningful comparisons.

GENERAL CHARACTERISTICS

Financial Organization

All cooperating firms were corporations. Twenty-seven were private corporations where stock was held privately by relatively few people, generally related by blood or marriage. The remaining 4 firms

[4]All size classifications used in this study are based on 1961 slaughter volume of all species. Small plants are those that slaughtered less than 20 million pounds liveweight. Medium plants slaughtered between 20 and 60 million pounds liveweight. Large plants slaughtered more than 60 million pounds liveweight. The number of plants in each category is not disclosed.

offered stock for public ownership. The 31 plants were owned by 27 corporations. Multiplant operations were private corporations.

Age of Packing Plant Structures

Average age of the 31 plant structures was 50 years, with a range from 10 to 90 years. Only 4 structures were less than 15 years old, and most of them were over 40 years old. Numerous additions and modifications to the original structures were typical, however.

Years Under Present Ownership

The average firm had been under its present ownership for nearly 40 years, but the range was extreme, varying from 1 to 90 years. Only three of the firms had changed ownership in the preceding 5 years; six had an ownership change between 1940 and 1956; and none of the remainder had experienced an ownership change since 1930.

Slaughter Combinations

Eight of the plants (more than 25 percent of the sample) were full line packers and processors, slaughtering all species and selling a complete line of prepared meat products (Table 3). Ten firms slaughtered cattle only or were cattle-calf combinations, and seven of these did no processing. An additional six firms killed only hogs. Three of these did no processing. Almost all plants either were one specie plants, killed all species, or were limited to cattle-hog combinations. Other combinations were rare, as indicated in Table 3. The largest plant in the sample averaged over 120 million pounds liveweight slaughtered annually during 1960 - 1961; the smallest averaged 10.5 million pounds. Average volume among cattle slaughterers was about 26.5 million pounds. Hog slaughterers averaged nearly 33 million pounds. Calf slaughter averaged nearly 36.5 thousand pounds, and

TABLE 3.—Slaughter Combinations and Processing Activities of 31 Ohio Meatpackers, 1961.

Specie Combinations	Number Slaughtering	Percent Processing
Cattle only	5	20.0
Hogs only	6	50.0
Cattle and Calves	5	40.0
Cattle and Hogs	4	75.0
Cattle, Calves and Hogs	2	100.0
Cattle, Calves, Sheep and Lambs	1	0.0
Cattle, Calves, Hogs, Sheep and Lambs	8	100.0
Total or Average	31	61.3

sheep and lamb slaughter about 110 thousand pounds, although the latter figure is misleading due to the heavy concentration of sheep and lamb slaughter among a smaller number of plants.

Product Combinations

All firms conducted slaughter operations, but the amount of processing varied greatly among the 31 firms (Table 4). The figures do not accurately reflect the amount of processing done by these plants because they include all products merchandised or jobbed by the plants, including brand name products of other firms, and not necessarily of their own manufacture. An example appears in the number of plants selling lard and/or shortening. Only 20 plants slaughtered hogs, and some of these were carcass shippers, but 21 merchandised lard/shortening.

Plants that undertook to process meats were not necessarily the larger firms among the 31 sampled. Smoked and cured products, luncheon and sausage meats, and lard/shortening were prepared or sold with no relationship to plant size Animal foods were prepared only by large plants, however, and canned meats tended to be manufactured by the larger plants. More complete product lines generally were found among larger processors, although some smaller plants sometimes merchandised an extensive list of brand name products manufactured by other (regional or national) packers.

Type of Plant Inspection

Twenty of the plants surveyed were Federal houses, regularly inspected in their slaughter and processing activities by personnel of the Meat Inspection Division of the U. S. Department of Agriculture. By law, therefore, these were the only firms in the sample that could sell their products in interstate commerce. The remaining 11 plants necessarily were intrastate operations that were inspected under city or county inspection laws and procedures.

TABLE 4.—Products Sold by 31 Ohio Meatpackers, 1961.

Product Sold	Percent of Packers Selling
Fresh Meat	100.0
Lard/Shortening	71.0
Smoked and Cured	67.7
Luncheon and Sausage	61.3
Canned Meat	22.6
Fresh/Frozen Boneless	12.9
Animal Food	6.5

All Federal houses defended the need for Federal inspection in terms of their ability to operate in interstate trade. Most non-federal houses would have preferred Federal inspection, but doubted their ability to qualify. Principal deterrents to qualification were in terms of plant construction and frequently the most serious limitation, in terms of costs of compliance, was minimum rail height above the plant floor. Some plants expressed desire for Federal inspection in terms of a better ability to enter coveted markets within Ohio in addition to opportunities for interstate trade.

Plant Labor

The 31 sampled plants employed 7178 persons in 1961 (Table 5). Of these, 5163 were plant laborers. The remainder were administrative, managerial, sales, clerical, buyers and truckers. Thus, in-plant labor made up 72 percent of the labor force. Plant labor was totally or partially unionized in 84 percent of the plants. The labor force in plants that slaughtered and processed averaged about five times as great as in plants that did no processing. In-plant labor constituted a higher percentage of the total labor force in non-processing plants than in processing plants, due to the greater simplicity of operations, including procurement, merchandising and clerical duties. The largest labor force was found in plants that slaughtered all species. Second-ranking in labor force size were cattle-hog combination plants. Smallest labor requirements were among non-processors.

Labor Productivity Labor productivity was measured by output per man hour on beef and pork killing floors. Since scale of operations is significant in measures of productivity, plants were classified not only according to slaughter combinations, but also by size. Because of the small sample size in each category, results were not uniform. Generally, plants averaged about 4 hogs per man hour and 1 head of cattle per man hour. Greatest labor efficiency in both cattle and hog killing operations was found in single-specie plants. Lowest labor efficiency was displayed by cattle-hog combinations. Scale economies were most evident among plants that slaughtered all species, average labor productivity rising consistently with increases in plant size (Table 6).

Plant Capacity

Capacity was explored in terms of killing floor and cooler (excluding sales coolers) limitations under alternative levels of operation. Maximum, average, and optimum levels were recorded on the basis of information supplied by cooperators. Maximum capacity referred to

TABLE 5.—Labor Force in 31 Ohio Meatpacking Plants, 1961.

Slaughter Combination	Number of Plants	All Employees			In-Plant Labor[2]			% of Total	Percent of Plants Unionized
		Total	Average	Range	Total	Average	Range		
Plants That Slaughter Only[1]	11	667	61	20-125	529	48	11-120	79.3	90.9[3]
Plants That Slaughter & Process	20	6511	325	52-900	4634	232	36-650	71.2	80.0[3]
Cattle (and Calves) Only	3	692	231	150-275	530	177	105-215	76.6	100.0
Hogs Only	3	710	237	75-500	507	169	62-365	71.4	66.7
Cattle, Calves & Hogs	8	2370	296	104-800	1667	208	71-550	70.3	87.5[3]
All Species	6	2739	457	52-900	1930	322	36-650	70.5	66.7
Total, All Plants	31	7178	232	20-900	5163	167	11-650	72.0	83.9

[1]Some plants merchandised edible offal, frozen boneless meat, cheese, margarine or other "processed" products not of their own manufacure

[2]Excludes managerial, clerical, sales, and truck drivers.

[3]Includes one plant partially unionized in plant labor.

TABLE 6.—Average Beef and Hog Kill Crews and Output in Number of Head Slaughtered Per Man Hour, 30 Ohio Meatpackers, 1961.[1]

Slaughter Combination	Large Plants		Medium Plants		Small Plants		All 30 Plants	
	No. in crew[2]	Man-hour Output	No. in crew[2]	Man-hour Output	No. in crew[2]	Man-hour Output	No. in crew[2]	Man-hour Output
Cattle and Calves Only	27	1.11	19	1.46	7	1.14	13	1.19
Hogs Only	28	8.16	59	2.98	29	2.41	34	4.21
Cattle, Calves and Hogs								
Cattle Kill	25	0.70	—	—	6	1.15	15	0.86
Hog Kill	42	3.72	—	—	27	3.34	35	3.57
All Species								
Cattle Kill	21	1.28	11	1.14	13	0.34	17	1.13
Hog Kill	53	5.05	30	2.50	14	1.94	38	4.14

[1]One non-respondent on crew size.

[2]Cattle and hog kill crews may overlap.

the maximum that could be obtained from existing facilities. Average levels were based on 1960 - 61 volume. Optimum levels were ideal conditions as interpreted by plant management, without necessarily being restricted to present facilities. These latter conditions usually pinpointed bottlenecks in present operations.

Few plants operated at maximum cooler or killing floor levels in 1961, nor would the management generally have wanted to operate at maximum if given the opportunity. However, the **average** level of 1961 operations generally was conceded to be below the **optimum** (desired) level (Table 7).

Packers generally aimed for approximately a 1-to-1 ratio in hog killing floor and hog cooler capacity. But with a longer chill on beef carcasses desired, they wanted beef coolers to have two to three times the daily killing floor capacity. Actual relationships often ranged far from these ideals and significant imbalances were evident. In a few instances, killing operations were not up to the level easily handled by available cooler space. Generally, however, cooler space limitations were the serious bottleneck to increased volume of operations.

In 1961, plants that killed only cattle operated at about 79 percent of maximum capacity and at about 92 percent of the level considered optimum. Plants that killed only hogs operated at 65 percent of maximum and 87 percent of optimum. Cattle-hog combinations operated at 73 percent maximum and 81 percent optimum on cattle, and 70 percent maximum and 75 percent optimum on hogs. Plants

TABLE 7.—Maximum, Average, and Optimum Stated Daily Killing Floor Capacity and Chill Period Cooler Capacity, 30 Ohio Meatpackers, 1961.

Capacity	Cattle and Calves only[1] (11 Plants)		Hogs Only (6 Plants)		Cattle, Calves and Hogs (6 Plants)		All Species (7 Plants)[6]	
	Average	Range[2]	Average	Range[2]	Average	Range[2]	Average	Range[2]
Maximum Capacity[3]								
Killing Floor								
Cattle	163.8	50-320	—	—	120.8	40-240	235.7	30-500
Hogs	—	—	1140.0	340-2300	973.3	200-2400	1078.6	200-2400
Cooler								
Beef	344.5	75-700	—	—	179.5	42-550	643.3	30-2000
Pork	—	—	973.3	340-2500	836.7	200-1600	1200.0	200-2400
Average Capacity[4]								
Killing Floor								
Cattle	129.5	50-250	—	—	88.6	25-220	148.6	30-400
Hogs	—	—	739.2	240-1600	680.8	200-1100	682.1	140-1200
Cooler								
Beef	230.6	65-700	—	—	161.2	25-550	351.4	30-750
Pork	—	—	782.5	310-2000	680.8	185-1100	796.4	140-2000
Optimum Capacity[5]								
Killing Floor								
Cattle	141.0	50-275	—	—	110.0	40-220	174.3	30-500
Hogs	—	—	847.5	310-2000	908.3	200-2250	828.6	200-1800
Cooler								
Beef	282.0	60-345	—	—	254.0	100-550	625.0	30-2000
Pork	—	—	797.5	310-2000	951.7	200-2400	129.7	200-2400

[1]Includes one plant that kills sheep and lambs also.
[2]Ranges cited for coolers do not necessarily match ranges cited for killing floors in times of specific plants.
[3]Maximum existing facilities.
[4]Averages misleading. It was not always clear whether respondent meant average daily addition to cooler or average cooler inventory, as intended.
[5]Not necessarily restricted to existing facilities.
[6]One of 8 plants in this category did not disclose capacities.

TABLE 8.—Maximum, Average, and Optimum Stated Killing Floor Capacity In Hours Per Day and Days Per Week, 30 Ohio Meatpackers, 1961.

Capacity	Slaughter Combination					
	Cattle and Calves Only[1]	Hogs Only	Cattle, Calves and Hogs (6 Plants)		All Species (7 Plants)[2]	
	(11) Plants	(6 Plants)	Cattle	Hogs	Cattle	Hogs
Maximum						
Hours per Day	8.4	6.5	7.8	6.1	7.6	6.5
Days per Week	5 0	5.0	5.0	4.5	4.7	4.6
Average						
Hours per Day	8.0	5.5	7.4	5.0	7.6	5.6
Days per Week	5.0	5.0	5.0	4.6	4.7	4.6
Optimum						
Hours per Day	8.0	6.0	7.7	5.4	7.6	5.9
Days per Week	5.0	5 0	5.0	4.5	4.7	4.6

[1]Includes one plant that kills sheep and lambs also.
[2]One full line packer did not respond

slaughtering all species operated at 63 percent maximum and 85 percent optimum on cattle, and 63 percent maximum and 82 percent optimum on hogs.[5]

Similar patterns were observed in terms of hours kill per day and days kill per week (Table 8). Generally, packers were better satisfied with the number of days operation they realized per week than with daily hours of operation. It was also apparent that when average hourly levels were much below maximum levels, "optimum" was set somewhere between the present level and the maximum. But when hourly operations already were near the maximum, packers seldom felt that a lower level would be optimum. It is evident that the definition of "optimum" is subjective and is influenced by present circumstances and operating levels.

LIVESTOCK PROCUREMENT

Livestock procurement sources are recorded in Tables 9 through 16. Variations in procurement patterns were evident for different species, plant locations, livestock production densities, and firms of varying sizes. Small firms relied more heavily on terminals, operated buying stations less frequently, and tended to use local markets and auc-

[5]Figures derived from Table 7.

tions somewhat more often than large plants. This of course is related to a desire to keep procurement costs variable and minimize the fixed costs associated with these activities.

Cattle Purchases:

Terminals accounted for nearly half the cattle bought by these 31 plants. Chicago was the principal terminal used, although Cincinnati was an important market to many of the smaller beef killers located in that city (Table 9). Ordinarily, neither buying stations nor local markets were important sources, these customarily being used in the Corn Belt mostly as hog marketing facilities. Auctions, however, accounted for 10 to 20 percent of cattle purchases, the percentage varying with plant size categories. About two-thirds of the cattle were purchased in Ohio, although large packers purchased outside the state more frequently than did plants in other size categories. Out of state purchases were made in Illinois, Indiana, Iowa, Kentucky, Nebraska, and West Virginia.

TABLE 9.—Cattle Procurement Sources for 31 Ohio Meatpackers, 1961.

Source	Large[1]	Medium[2]	Small[3]	All
Terminals:				
Chicago	25.5	12.4	15.3	17.7
Cleveland	11.9	7.2	0.0	6.4
Cincinnati	2.9	0.0	36.2	13.0
Indianapolis, St. Louis & Louisville	15.4	3.0	3.8	7.4
Omaha and Sioux City	6.5	0.8	0.8	2.7
Total Terminal	62.2	23.4	56.1	47.2
Direct at Plant or Buying Station	3.6	41.8	2.9	16.1
Ohio Local Markets	1.7	4.8	4.3	3.6
Auctions:				
Ohio	10.1	20.3	17.2	15.9
Out-of-State	3.5	0.0	5.5	3.0
Feedlots:				
Ohio	14.3	1.9	10.7	9.0
Out-of-State	4.6	7.8	3.3	5.2
Total, All Purchases	100.0	100.0	100.0	100.0
Total Ohio Purchases	44.5	76.0	71.3	63.9
Total Out-of-State Purchases[4]	55.5	24.0	28.7	36.1

[1]Plants slaughtering over 60 million pounds liveweight in 1961.
[2]Plants slaughtering between 20 and 60 million pounds liveweight in 1961.
[3]Plants slaughtering less than 20 million pounds liveweight in 1961.
[4]Purchases from Indiana, Illinois, Kentucky, Iowa, West Virginia and Nebraska.

Procurement patterns were influenced by plant location in Ohio (Tables 10 and 11). Eastern Ohio packers purchased more than one-fourth of their cattle from Chicago, but the Chicago purchase average was lower among Western Ohio packers who found Cincinnati an important market. Western Ohio packers made more feedlot purchases,

TABLE 10.—Sources of Cattle Procurement by Location of 31 Ohio Meatpackers, 1961.

Source	Western Ohio	Eastern Ohio
	(Percent)	(Percent)
Direct at Plant and Buying Station	3.0	15.1
Chicago Terminal	14.5	26.8
Cleveland Terminal	-0-	15.7
Cincinnati Terminal	19.8	-0-
Indianapolis Terminal	4.5	5.7
Louisville Terminal	0.5	0.8
E. St. Louis Terminal	9 6	2.0
Omaha Terminal	0.9	3.7
Sioux City Terminal	0.1	3.4
Ohio Local Markets	1.7	3.5
Ohio Auction Markets	14.4	12.2
Indiana Auction Markets	2.2	-0-
Illinois Auction Markets	-0-	2.5
Kentucky Auction Markets	0.1	0.8
West Virginia Auction Markets	-0-	0.8
Ohio Feedlots	22.4	3.2
Indiana Feedlots	5.1	1.8
Illinois Feedlots	0.4	0.3
Iowa Feedlots	-0-	0.3
Kentucky Feedlots	0.4	0.6
West Virginia Feedlots	0.4	0.8
Total	100.0	100.0

TABLE 11.—Cattle Procurement by State, Eastern and Western Ohio Meatpackers, 1961.

Source	Western Ohio	Eastern Ohio
	(Percent)	(Percent)
Ohio	61.3	49.7
Indiana	11.8	7.5
Illinois	24.5	31.6
Kentucky	1.0	2.2
West Virginia	0.4	1.6
Iowa	0.1	3.7
Nebraska	0.9	3.7
Total	100.0	100.0

TABLE 12.—Hog Procurement Sources for 31 Ohio Meatpackers, 1961.

Source	Large[1]	Medium[2]	Small[3]	All
	(Percent of hog purchases)			
Terminals:				
Chicago	3.7	0.0	4.8	2.8
Cleveland, Cincinnati	12.7	42.0	10.8	21.8
Indianapolis, St. Louis	2.1	0.0	3.7	1.9
Total Terminal	18.5	42.0	19.3	26.5
Local Markets:				
Ohio	18.6	19.2	44.1	27.4
Indiana	2.4	9.3	10.2	7.3
Other States	2.4	6.8	0.0	3.1
Total Local Markets	23.4	35.3	54.3	37.8
Direct Purchases:				
Purchased at Plant	26.3	5.4	21.0	17.6
Purchased at Buying Station:				
Ohio Stations	12.7	17.3	5.4	11.8
Out-of-state Stations	3.4	0.0	0.0	1.1
Total Direct	42.4	22.7	26.4	30.5
Auctions	0.6	0.0	0.0	0.2
Eastern Order Buyers[4]	15.1	0.0	0.0	5.0
Total, All Purchases	100.0	100.0	100.0	100.0
Total Ohio Purchases	86.0	83.9	81.2	83.7
Total Out-of-state Purchases[5]	14.0	16.1	18.8	16.3

[1]Plants slaughtering over 60 million pounds liveweight in 1961.

[2]Plants slaughtering 20 to 60 million pounds liveweight in 1961.

[3]Plants slaughtering under 20 million pounds liveweight in 1961.

[4]Some plants did not know exactly which markets their hogs came from, having ordered them through EOB. This entry, therefore, may involve some double-counting with local market purchases.

[5]Illinois, Indiana, Iowa and Michigan. Out-of-state purchases underestimate the extent of hog purchases made outside Ohio. The figure exceeds 25 percent in most years, with the majority of the out-of-state purchases being made in Indiana.

(heavy Western Ohio production of cattle being an influential factor) and had less contact with distant terminals such as Louisville, Indianapolis, Omaha and Sioux City than did Eastern Ohio plants. Most Kentucky and West Virginia purchases were made by Eastern Ohio packers and by those western packers located in Cincinnati. Direct purchases (i.e., delivered by producers to the plant) were more common in Eastern Ohio.[6]

[6]Cleveland might have appeared as a more important source had the sample been extended beyond the 31 largest Ohio packers, or had included national packers. The Swift plant at Cleveland was in operation during 1960 and part of 1961.

Hog Purchases:

Local markets were the major source of hog purchases for all packers, and accounted for the majority of hogs bought by the smallest plants (Table 12). Direct purchases at plants or buying stations were second in importance. These accounted for about one-fourth of small plant purchases and about 40 percent of the hogs bought by large plants.

Terminals at Cleveland and Cincinnati contributed substantially as sources for hogs, while out-of-state terminals did not figure significantly in the overall procurement pattern. Auction markets were unimportant sources since these markets typically emphasize cattle and non-slaughter livestock much more than hogs. More than four-fifths of the hogs were purchased in Ohio and this percentage was substantially the same for all plant size categories. Out-of-state purchases were made in Illinois, Indiana, Iowa, and Michigan, and most of these were made by Eastern Ohio packers (Table 14.) Chicago and Indianapolis acounted for most of the terminal purchases made by Eastern Ohio plants. Cincinnati was the dominant terminal for Western Ohio plants, reflecting the importance of hog slaughter operations in the Cincinnati vicinity (Table 13). Ohio local markets and direct purchases

TABLE 13.—Sources of Hog Procurement by Location of 31 Ohio Meatpackers, 1961.

Source	Western Ohio	Eastern Ohio
	(Percent)	(Percent)
Direct at Plant	24.8	16.1
Ohio Buying Stations	13.4	10.3
Illinois Buying Stations	3.4	-0-
Chicago Terminal	0.1	10.8
Cleveland Terminal	-0-	0.3
Cincinnati Terminal	24.1	-0-
Indianapolis Terminal	0.8	4.7
E. St. Louis Terminal	-0-	0.6
Ohio Local Markets	23.0	18.7
Indiana Local Markets	3.9	5.9
Michigan Local Markets	-0-	2.9
Illinois Local Markets	1.6	1.4
Iowa Local Markets	-0-	1.4
Eastern Order Buyers	4.9	25.3
Ohio Auction Markets	-0-	1.6
Total	100.0	100.0

at plants and buying stations were more important among plants in Western Ohio, but out-of-state local markets and terminals were used more frequently by Eastern Ohio firms. The longer procurement line typical of plants operating in Eastern Ohio has been a contributing factor in the general pattern of plant re-location nearer supply sources that has been prevalent throughout the country in the postwar years.

Calf Purchases:

Calves were purchased upon delivery at plants, or were bought at auctions or terminals (Table 15). Out-of-state purchases were made only in Kentucky and these, probably, were made by Cincinnati packers. Large packers showed more variety in their procurement systems than did plants of smaller sizes, and tended to rely upon country marketing channels, particularly auctions. Although small packers also

TABLE 14.—Hog Procurement by State, 31 Eastern and Western Ohio Meatpackers, 1961.

Source	Western Ohio	Eastern Ohio
	(Percent)	(Percent)
Ohio	90.2	72.3
Indiana	4.7	10.6
Illinois	5.1	12.8
Michigan	-0-	2.9
Iowa	-0-	1.4
Total	100.0	100.0

TABLE 15.—Calf Procurement Sources for 31 Ohio Meatpackers, 1961.

Source	Large[1]	Medium[1]	Small[1]
	(Percent of Calf Purchases)		
Terminal (all Cincinnati)	19.8	0.0	65.8
Auctions	67.2	0.0	23.9
Local Markets	1 5	0.0	7.0
Direct Purchases:			
Purchased at Plant	1.2	100.0	3.3
Purchased at buying stations	10.3	0.0	0.0
Total Purchases	100.00	100.0	100.0
Total Ohio Purchases	100.0	100.0	100.0
Total Out-of-state Purchases[2]	0.0	0.0	0.9

[1]Volume identified in preceding tables.
[2]All out-of-state purchases were made in Kentucky.

employed auctions as a source, they bought two-thirds of their calves at the Cincinnati Terminal.

Sheep and Lamb Purchases:

Local markets, direct plant purchases, and feedlot purchases constituted the procurement channels for sheep and lambs, although large plants purchased additional small amounts at auctions (Table 16). All purchases were made in Ohio. Generally, packers stated that they did not give much planning to their lamb procurement activities and reported that they bought them "wherever they could find them." Purchases often were made in conjunction with and incidental to procurement activities for other species of greater importance to the packers' immediate needs.

Future Procurement Plans:

Fifteen of the 31 plants interviewed were expanding or planning to expand their direct buying activities. Large packers were among those who were initiating concrete plans for more direct buying as were small packers that were concerned about what country marketing alternatives should be pursued if terminal sources they presently used should close.

Other procurement possibilities included contract buying, buying stations, company-owned feedlots, carcass weight and grade buying for hogs, and carcass grade and yield (essentially dual grading) transactions for cattle. Among the advantages expected by these 15 firms were greater pricing accuracy in reflecting carcass values, reduction in seasonal slaughter variations, more accurate procurement in terms of

TABLE 16.—Sheep and Lamb Procurement Sources for 31 Ohio Meatpackers, 1961.

Source	Large[1]	Medium[1]	Small[1]
	(Percent of Sheep and Lamb Purchases)		
Terminal	0.0	0.0	0.0
Auctions	11.2	0.0	0.0
Local Markets	39 2	0.0	22.4
Direct Purchases:			
Purchased at plant	38.4	74.9	0.0
Purchased at buying stations	11 2	0.0	0.0
Purchased at feedlots	0.0	25.1	77.6
Total Purchases[2]	100.0	100.0	100.0

[1]Volumes identified in preceding tables

[2]All sheep and lambs were bought in Ohio

desired weights, grades, and dressing percentages, and reduced total procurement costs.

MEAT PROCUREMENT

Most meatpacking plants typically purchase supplementary amounts of meat beyond the supplies they derive from their own slaughter operations. This is done for a variety of reasons. For example: (1) Slaughter operations never provide the necessary quantities and qualities of all the ingredients used in manufacturing prepared meat products. (2) Total volume of both the slaughter and the processing operations seldom are balanced so that processing ingredients that are provided by slaughter will not need supplementing. (3) Price relationships often make it expedient to expand or reduce inventories on hand at any given time. Packers may buy green hams at a time when prices are expected to strengthen. After a short storage period these hams can be smoked, cured and sold under more favorable price conditions.

Most of the firms interviewed had purchased extra meat during the period observed (Table 17). Sources were varied, depending upon form and quality of meat and season of purchase. Domestic supplies were bought from other packers or slaughterers and from the breakers and boners defined in footnotes to Table 17. Brokers handled both domestic and imported meat and most of the import purchases were made through such brokers, usually contacted in Chicago or New York City.

During 1961, approximately 81.5 million pounds of meat were purchased: 60 percent of it pork and over a third of it beef (Table 18). More than half of the pork purchased was in the form of green hams and fresh bellies to be smoked and cured for resale. Most of the remainder was carcass pork, fresh trim, and wholesale cuts. Beef purchases consisted almost entirely of fresh and frozen boneless trim. Larger plants bought mostly frozen boneless while small plants bought fresh boneless from domestic or even local suppliers. Ninety percent of the veal was purchased as boneless trim to be used as sausage ingredients and substantial purchases of boneless mutton were intended for the same use. Carcass lamb purchases were not uncommon, being bought and merchandised by packers that did not slaughter lamb in their plants.

More than 60 percent of beef purchases were used as sausage ingredients. About 18 percent was resold. This consisted mostly of boneless trim sold to other processors or to retailers for hamburger (Ta-

TABLE 17.—Number of Firms Purchasing Meat from Ohio and Out-of-State Suppliers, 31 Ohio Meatpackers, 1961.

Supplier		Large	Medium	Small	Total
Broker[1]					
Beef		5	1	5	11
Veal		1	1	1	3
Pork		3	0	1	4
Lamb and Mutton		2	0	0	2
	Total	11	2	7	20
Packer[2]					
Beef		1	1	4	6
Veal		0	0	1	1
Pork		5	1	8	14
Lamb and Mutton		0	0	4	4
	Total	6	2	17	25
Boner[3]					
Beef		4	0	4	8
Veal		1	0	2	3
Pork		0	0	0	0
Lamb and Mutton		1	0	0	1
	Total	6	0	6	12
Breaker[4]					
Beef		3	0	0	3
Veal		0	0	0	0
Pork		0	0	0	0
Lamb and Mutton		0	0	0	0
	Total	3	0	0	3
Slaughterer[5]					
Beef		0	0	0	0
Veal		0	0	1	1
Pork		0	0	0	0
Lamb and Mutton		0	0	0	0
	Total	0	0	1	1

[1]An agent aiding in the procurement of meat through its many contacts in the United States and abroad. Operates on commission without taking title.

[2]A firm slaughtering and processing meat from slaughter livestock.

[3]Independent wholesalers specializing in removing bones and sinews from lower grade carcasses and in selling the meat to processing plants and retailers.

[4]Purchase carcasses from packers and distributes wholesale cuts to other wholesalers, packers, and retailers.

[5]Firms principally engaged in the slaughter of livestock and the distribution of fresh meat, carcasses, or cuts, but not processing.

TABLE 18.—Amount and Form of Meat Purchases by 31 Ohio Meatpackers, 1961.

Form of Meat	Amounts Procured by Each Firm Size and Percent of Total of Each Form									
	Large			Medium			Small			
	No. of Purchases	Pounds	Percent of Total	No. of Purchases	Pounds	Percent of Total	No. of Purchases	Pounds	Percent of Total	Total Pounds
Beef										
Carcass	1	125,000	0.7	0	0	0.0	2	330,000	3.0	455,000
Frozen Boneless Trim[1]	6	9,190,000	50.5	2	2,200,000	100.0	4	2,925,000	27.1	14,315,000
Fresh Boneless Trim[1]	3	3,750,000	20.6	0	0	0.0	5	7,472,000	69.2	11,222,000
Wholesale Cuts[3]	4	5,142,000	28.2	0	0	0.0	1	75,000	0.7	5,217,000
Total	14	18,207,000	100.0	2	2,200,000	100.0	12	10,802,000	100.0	31,209,000
Veal										
Frozen Boneless Trim[1]	1	500,000	76.9	1	50,000	100.0	2	190,800	36.0	740,800
Fresh Boneless Trim[1]	1	150,000	23.1	0	0	0.0	2	230,000	43.3	380,000
Carcass	0	0	0.0	0	0	0.0	1	110,000	20.7	110,000
Total	2	650,000	100.0	1	50,000	100.0	5	530,800	100.0	1,230,800

[1]Boneless trim is used mainly as a sausage ingredient and is normally around 80 - 90 percent lean meat.
[2]Hams which will be smoked or cured for retail sale.
[3]Includes those fresh cuts of meat sold at retail.

TABLE 18. (Continued)—Amount and Form of Meat Purchases by 31 Ohio Meatpackers, 1961.

Form of Meat	Large: No. of Purchases	Large: Pounds	Large: Percent of Total	Medium: No. of Purchases	Medium: Pounds	Medium: Percent of Total	Small: No. of Purchases	Small: Pounds	Small: Percent of Total	Total Pounds
	Amounts Procured by Each Firm Size and Percent of Total of Each Form									
Pork										
Green Hams[2]	4	22,500,000	72.9	0	0	0.0	3	1,960,000	12.7	24,460,000
Fresh Boneless Trim[1]	2	625,000	2.0	1	1,750,000	100.0	3	2,016,500	13.1	4,391,500
Bellies	4	4,750,000	15.4	0	0	0.0	3	755,000	4.9	5,505,000
Wholesale Cuts[3]	2	2,250,000	7.3	0	0	0.0	5	823,500	5.3	3,073,500
Frozen Boneless Trim[1]	1	750,000	2.4	0	0	0.0	1	50,450	0.3	800,450
Carcass	0	0	0.0	0	0	0.0	1	9,800,000	63.7	9,800,000
Total	13	30,875,000	100.0	1	1,750,000	100.0	16	15,405,450	100.0	48,030,450
Lamb and Mutton										
Carcass	0	0	0.0	0	0	0.0	4	572,500	100.0	572,500
Frozen Boneless Mutton[1]	2	350,000	77.8	0	0	0.0	0	0	0.0	350,000
Wholesale Cuts[3]	1	100,000	22.2	0	0	0.0	0	0	0.0	100,000
Total	3	450,000	100.0	0	0	0.0	4	572,500	100.0	1,022,500

[1]Boneless trim is used mainly as a sausage ingredient and is normally around 80 - 90 percent lean meat.
[2]Hams which will be smoked or cured for retail sale.
[3]Includes those fresh cuts of meat sold at retail.

ble 19). Nearly 15 percent was used for other processed meats such as wieners and bologna. Small percentages were used as hamburger and to fill unexpected needs.

One half of the pork purchases were smoked, cured and resold, thus accounting for green ham purchases cited in Table 18. Pork carcasses were sold as fresh wholesale cuts, and fresh bellies were used for bacon. Sausage manufacture required about 12 percent of purchases. Unexpected needs and other processing activities accounted for small remaining percentages.

Nearly all of the veal purchases were used as sausage ingredients and in other processed products. About two-thirds of the lamb and mutton was resold in the form in which it was purchased, usually to other processors, but sometimes to retail outlets. Most of the remainder was mutton used as an ingredient in rather low-grade processed products.

PRODUCT DISTRIBUTION

Brand Names

Firms establish brand names to help in merchandising and advertising. Brand names identify the product to retail buyers and consumers who learn to associate the brand name with a product of given quality and other characteristics. Successfully established brand name products also provide the manufacturer with some latitude in negotiating acceptable prices in selling the product. Two factors have developed in the meat industry, particularly in the post-war years, which have had a significant effect in reducing the extent of brand-naming. One has been the rapid expansion of Federal grades for beef. The other has been the growth of retail store brand names.

Federal grade marking serves to identify the product to retailers and consumers and tends to reduce the effectiveness of brand names which are designed to do essentially the same thing. Brand-naming of fresh beef and other fresh products has been reduced or abandoned by most packers in recent years. Retail brands tend to identify the product with the retail outlet and often fail to represent the manufacturer at all. Both developments, therefore, have contributed to a general decline of packer bargaining power in price negotiations in the market place with retailers.[7]

[7]Both the developments and their effects merit considerably more discussion than can be given here. An excellent reference can be obtained for $1.00 from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.: Williams, W. F., et. al., Economic Effects of U. S. Grades for Beef, Marketing Research Report 298, U. S. Department of Agriculture, January, 1959.

TABLE 19.—Use Made of Supplementary Meat Purchases by 31 Ohio Meatpackers, 1961.

Use of Meat	Amounts of Additional Meat for Each Use and Percent of Total of Each Use									
	Large			Medium			Small			
	No. of Purchases	Pounds	Percent of Total	No. of Purchases	Pounds	Percent of Total	No. of Purchases	Pounds	Percent of Total	Total Pounds
Beef										
Sausage Ingredient	8	8,690,000	47.7	2	2,200,000	100.0	6	8,542,000	79.1	19,432,000
Resale[1]	4	5,267,000	28.9	0	0	0.0	3	295,000	2.7	5,562,000
Processed Meat	1	3,000,000	16.5	0	0	0.0	3	1,665,000	15.4	4,665,000
Hamburger	1	1,250,000	6.9	0	0	0.0	1	50,000	0.5	1,300,000
Unexpected Needs	0	0	0.0	0	0	0.0	1	250,000	2.3	250,000
Total	14	18,207,000	100.0	2	2,200,000	100.0	14	10,802,000	100.0	31,209,000
Veal										
Sausage Ingredient	1	150,000	23.1	1	50,000	100.0	1	200,000	37.7	400,000
Processed Meat	1	500,000	76.9	0	0	0.0	2	190,800	35.9	690,800
Resale[1]	0	0	0.0	0	0	0.0	2	140,000	26.4	140,000
Total	2	650,000	100.0	1	50,000	100.0	5	530,800	100.0	1,230,800
Pork										
Sausage Ingredient	5	1,475,000	4.8	1	1,750,000	100.0	5	2,472,000	16.0	5,697,000
Smoke and Cure	7	22,600,000	73.2	0	0	0.0	2	1,600,000	10.4	24,200,000
Wholesale Cuts	1	1,200,000	3.9	0	0	0.0	3	9,828,000	63.8	11,028,000
Bacon	1	4,000,000	13.0	0	0	0.0	1	580,000	3.8	4,580,000
Processed Meat	1	100,000	0.3	0	0	0.0	4	925,450	6.0	1,025,450
Unexpected Needs	1	1,500,000	4.8	0	0	0.0	0	0	0.0	1,500,000
Total	16	30,875,000	100.0	1	1,750,000	100.0	15	15,405,450	100.0	48,030,450
Lamb and Mutton										
Resale[1]	1	100,000	22.2	0	0	0.0	4	572,500	100.0	672,500
Processed Meat	2	350,000	77.8	0	0	0.0	0	0	0.0	350,000
Total	3	450,000	100.0	0	0	0.0	4	572,500	100.0	1,022,500

[1]Resold in form purchased.

Eleven of the firms interviewed in this survey used no brand names, their activities being limited to fresh meat, principally beef. The remaining 20 firms all used brand names to some extent, but always in connection with processed products; never with fresh meat. Most firms expressed a desire to expand their processing operations and their brand-name product lines. Brand names generally were employed in connection with product quality characteristics, and many products were merchandised under a number of brand names, each indicative of quality differences in the total product line.

Product Advertising

Twenty-one of the firms interviewed advertised their products in many ways. The ten firms that did no advertising were slaughterers dealing only in fresh meat. Various advertising techniques were employed, but newspapers, radio and television accounted for the majority (Table 20). Price was a dominant theme in such advertising. Advertising intended to promote or introduce a firm or a brand name employed newspapers and television, but also advertised with magazines, billboards, and demonstrations.

Among the firms that advertised, all regarded advertising as a means of attracting new buyers or of creating brand name loyalty among established users of the product. None regarded advertising as a means of obtaining favorable prices or otherwise associated advertising directly with bargaining power. The brand name itself was associated with bargaining power, however. More than two-thirds of

TABLE 20.—Advertising Methods Employed by 31 Ohio Meatpackers, 1961.

Media Used	Large	Medium	Small	Average
		(Percent)		
Radio	9.0	0.0	33.3	14.1
Newspapers	18.2	0.0	20.0	12.7
Television	27.3	0.0	0.0	9.1
Magazines	0.0	20.0	0.0	6.7
Billboards	0.0	0.0	0.0	0.0
Demonstrations[1]	0.0	0.0	20.0	6.7
Co-op Advertising[2]	18.2	20.0	0.0	12.7
None	27.3	60.0	26.7	38.0
Total	100.0	100.0	100.0	100.0

[1]Product advertising conducted in retail stores.

[2]Advertising in conjunction with that of other organizations with different but related or complementary product lines.

TABLE 21.—Principal Sales Outlets of 31 Ohio Meatpackers, 1961.

Buyers	Large	Medium	Small	Average
		(Percent of Tonnage)		
Independent Retail Stores[1]	35.0	45.0	61.7	47.2
Chain Stores[2]	31.8	10.0	19.0	20.3
Voluntary Chain Stores[3]	25.0	8.0	15.8	16.3
Independent Wholesalers and Others[4]	8.2	37.0	3.5	16.2
Total	100.0	100.0	100.0	100.0

[1]Not more than three stores in the same general kind of business.

[2]Four or more stores in the same general kind of business operated under a central management.

[3]Independently owned stores but operated cooperatively with three or more other stores in performing one or more retailing functions such as: buying wholesale cuts of meat, advertising, delivery, etc.

[4]Hotel, restaurant, and institutional supply houses; meat wholesalers selling mainly to retailers; boners; frozen meat handlers; sausage and soup manufacturers; concessionaires, etc.

the firms related that "some" bargaining power was associated with brand names. An additional 17 percent associated their brand name policies with "much" bargaining power. This may not reflect differences in viewpoint so much as differences in the degree to which the brand names of the different firms had been favorably accepted in the market.

Product Sales

Principal Buyers The great majority of sales were made to retail grocery stores with the remainder being sold to packers, processors and wholesalers, and others (Table 21). Independent retail stores accounted for two-thirds of the sales of small packers. Sales by large packers were about evenly divided among independents, chains, and affiliated independent chains. The trend of retail store development in the postwar period has emphasized the growth of affiliated chains and chains at the expense of unaffiliated independent groceries. As a result, the small independent grocery industry of years-gone-by now accounts for 60 percent of the total number of stores, but accounts for less than 10 percent of grocery sales. Chain stores account for nearly 40 percent of sales, and affiliated chains make about half of all grocery sales.

Most packers expressed a preference for dealing with independent groceries and were vitally concerned with the growth in size and power of chains and affiliated chains. Recognizing the strength of chains and the lower bid prices frequently associated with chainstore sales, some packers nevertheless preferred their patronage, citing re-

duced delivery costs and other cost-saving advantages in support of their viewpoint.

Geographic Distribution of Sales Nearly 60 percent of all product sales were made within 50 miles of the plant location, but considerable variation in sales patterns was evident for differences in plant size and location (Tables 22 and 23). Generally, small plants and Western Ohio plants distributed their products over smaller sales territories. Western Ohio figures are influenced, however, by the large number of small slaughterers located in that part of the state, particularly in Cincinnati. Percent of total sales declined as distance increased until the 250 mile interval was reached. The relatively high percent of sales reported beyond 250 miles occurred partly because no upper limit on the interval was specified. But it reflected also the significance of carcass shipments originating in Ohio and moving to key points such as Buffalo, Pittsburgh, the New York metropolitan area, and some New England locations.

Product shipments were made by Ohio packers to eleven states, the District of Columbia, and several unspecified residual destinations

TABLE 22.—Plant Size: Distribution of Product Sales of 31 Ohio Meatpackers by Mileage Intervals, 1961.

Distance in Miles	Large	Medium	Small	Average
		(Percent of Tonnage)		
0 - 25	27.0	26.6	67.6	40.4
26 - 50	16.8	23.6	17.0	19.1
51 - 100	20.3	5.4	8.3	11.3
101 - 250	13.4	8.8	7.1	9.8
Over 250	22.5	35.6	0.0	19.4
Total	100.0	100.0	100.0	100.0

TABLE 23.—Plant Location: Distribution of Product Sales of 31 Ohio Meatpackers by Mileage Intervals, 1961.

Distance in Miles	Western Ohio	Eastern Ohio	Average
		(Percent of Tonnage)	
0 - 25	53.8	28.9	40.4
26 - 50	16.7	20.5	19.1
51 - 100	11.7	12.7	11.3
101 - 250	9.5	14.5	9.8
Over 250	8.3	23.4	19.4
Total	100.0	100 0	100.0

TABLE 24.—Plant Size: Distribution of Product Sales of 31 Ohio Meatpackers by State of Destination, 1961.

Destination	Large	Medium	Small	Average
		(Percent of Tonnage)		
Ohio	65.7	62.6	92.4	73.5
New York[1]	9.8	31.0	0.7	13.8
Pennsylvania[2]	10.6	1.6	0.0	4.1
Kentucky	1.8	1.6	4.8	2.7
West Virginia	4.8	0.4	0.2	1.8
Massachusetts	2.0	1.4	0.0	1.1
Indiana	1.5	0.0	1.1	0.9
New Jersey	1.4	1.0	0.7	0.8
Maryland	0.5	0.0	0.0	0.2
Michigan	0.5	0.0	0.0	0.2
Illinois	0.3	0.0	0.1	0.1
Washington, D. C.	0.2	0.0	0.0	0.1
Others (unspecified)	0.9	0.4	0.0	0.7
Total	100.0	100.0	100.0	100.0

[1]Mainly New York City.
[2]Mainly Philadelphia.

TABLE 25.—Plant Location: Distribution of Product Sales of 31 Ohio Meatpackers by State of Destination, 1961.

Destination	Western Ohio	Eastern Ohio	Average
		(Percent of Tonnage)	
Ohio	82.8	69.4	73.5
New York[1]	5.3	15.0	13.8
Pennsylvania[2]	2.3	7.3	4.1
Kentucky	4.9	0.0	2.7
West Virginia	2.4	0.8	1.8
Massachusetts	0.1	2.5	1.1
Indiana	1.7	0.0	0.9
New Jersey	0.1	2.5	0.8
Maryland	0.0	0.9	0.2
Michigan	0.3	0.0	0.2
Illinois	0.1	0.3	0.1
Washington, D. C.	0.0	0.2	0.1
Others (Unspecified)	0.0	1 1	0.7
Total	100.0	100.0	100.0

[1]Mainly New York City
[2]Mainly Philadelphia.

(Tables 24 and 25). Nearly all small packer sales were made in Ohio, and more than 80 percent of Western Ohio plant sales also were intrastate. New York, Pennsylvania, Kentucky and West Virginia were principal destination states, in that order. Carcass shipments from medium sized plants helped to account for the high New York average.

Typically, the flow of Ohio packinghouse products reflected the characteristic West-to-East pattern of agricultural marketings originating in the Corn Belt. East-West flows were infrequent. Shipments to Illinois were reported as unusual or abnormal. Sales in Indiana, however, simply represented product distribution within the normal sales territories of some Western Ohio packers. Generally, Eastern Ohio plants shipped a higher percentage of their products over greater distances than did Western Ohio plants (Tables 23 and 25). This pattern of operation covering greater distances than Western Ohio packers also occurred in livestock procurement operations (Tables 11 and 14). It would appear that both procurement and distribution costs, therefore, would be higher for Eastern Ohio packers than for their counterparts in the Western part of the state.